I: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

[p. v]

FOREWORD

THE problems of diffusion, or the horizontal transmission of culture, are widely known and have been well studied. The problems of socialization, or the transmission of culture from one generation to the next, have scarcely been isolated as legitimate or necessary objects of scientific research. The pioneer work of Sapir, Mead, Radin, Underhill, Hallowell, and Dyk, among many others, has brought the problem of socialization to the fore in the field of anthropology and given it the characteristic label of culture and personality. Some of these workers, especially Sapir, Mead, and Radin, have profited by contact with the Freudian stream of ideas concerning individual development. A knowledge of the relativity of culture has set the framework for problems of culture and personality in the widest sense; Freudian researches in our own society have suggested hypotheses to be tested on the data of primitive people. Mr. Whiting, like his forebears, has been heavily influenced by both of these intellectual movements and has utilized the problem setting which they propose.

In seeking aid from Freudian psychology, students of culture and personality have profited greatly. In taking over some of Freud's views and hypotheses, however, they have been exposed to a characteristic defect of the Freudian position. I am not referring to the defects usually attributed to Freud since I do not think he overemphasizes sex, nor yet that the term "unconscious" is meaningless. The defect I refer to is that there is no hypothesis in Freud's theory to explain learning. This limits the usefulness of Freud's work for anthropologists.

If the culture of a group is, from the standpoint of any one generation, an arbitrary set of patterns, and if these patterns are socially transmitted, some principles must be evolved on the basis of which this transmission can take place. The most promising hypothesis seems to be that put forward by modern learning theory. This theory must not be

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma QJ13

confused with the associationistic principles of conditioning which were derived from the Pavlovian experiments or with the earliest attempt to formulate a behavioristic theory by Watson. Pavlov and Watson have both made their essential contributions, but so also have Thorndike, Hull, and many others; the more recent systemization of Hull seems to bring the theory within the range of usefulness by social scientists who are concerned with human learning.

Sumner offered the dictum that the folkways and mores of the group are the habits of the individual. This statement ought to have been more helpful than it has actually proved. The difficulty seems to have been that Sumner had no conception of the laws of habit, and that, therefore, nothing could be predicted from his assertion. Linton has likewise affirmed that a culture is a set of habits, but this assertion merely raises the question, What is a habit? If one asks that, one comes directly to the need for the learning theory—for a systematic statement of how responses are evoked, how they are affixed to stimuli, how habits disappear, and what kinds of rewards are useful in building habits. The dictum that culture is a set of rewarded habits seems more useful. It promises to import into anthropology those principles from learning theory which may be helpful in determining the origins, transmission, survival, and disappearance of group habit.

Mr. Whiting's book is an exploratory research in this field. The first part of the book provides a description of Kwoma culture as it is brought to bear on children during their growth from infancy to adulthood. The data selected make the children seem real and lively. In the second part of the book an analysis of the behavior of the children in terms of learning theory is presented. Mr. Whiting has applied learning principles as they now exist and has made some significant innovations. The best, among the latter, are his discussion of how motivation is provided to get Kwoma children to learn, how the children are guided in what to learn, and how they are rewarded for having learned. Whiting finds that secondary as well as primary rewards and punishments play

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

a great rôle in Kwoma teaching. While human learning must occur everywhere according to the same general principles, the details of the process probably differ from society to society. The responses rewarded vary endlessly, the stimuli to which these responses are pinioned are likewise different, and there must be as many systems of secondary reward and punishment as there are cultures. The work of anthropologists in this field will undoubtedly be of value to students of learning and teaching in our own society. [2] •

JOHN DOLLARD

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1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

PREFACE

THIS monograph has two purposes: first, to present the data gathered on Kwoma culture, and, second, to present a theory of the process of socialization. In accordance with this dual purpose, the book has been divided into two parts, the first descriptive, the second theoretical. In the descriptive part, after an introductory chapter in which the setting of the study is presented, an attempt has been made to describe the culture as it unfolds itself to an individual born into Kwoma society. The cultures of infancy, of the period of weaning, of childhood, of adolescence, and finally of adulthood are described. The data in each of these chapters have been organized according to the drives[1] involved. Social habits related to hunger, elimination, sex, and pain have been described in that order. Since many customs are associated with several of these drives, this organization could not be strictly adhered to. Those habits motivated by acquired drives, such as fear, anger, the wish to help, and the desire for prestige, have been described where it seemed most appropriate. The second part opens with a chapter in which the various techniques of teaching observed at Kwoma are elucidated and defined in terms of learning theory. This is followed by a chapter which presents the results of an inquiry into the manner in which Kwoma children are taught supernatural beliefs. This inquiry is made in terms of learning theory, teaching techniques, and the conditions of the culture, the society, and the environment which exist at Kwoma.

The idea for this research was suggested by Professor John Dollard. As a result of attending his seminars, it became clear to me that, although culture was assumed by anthropologists and sociologists to be transmitted by a social rather than a genetic process, there was no adequate theory

[1] For the use of the concepts of *drive* and *acquired drive*, see chap. vii, pp. 173-174.

1: Whiting B-5 (1936-1937) 1941
OJ13 Kwoma OJ13

• 121 of this process. Furthermore, a survey of the anthropological literature indicated that with a few notable exceptions there were very few empirical data on primitive child training, although since this project was instituted considerable additional material has appeared.

The interest in child training and in pre-adult culture is relatively new in anthropology. Until the last fifteen years there were only scattered and casual references to primitive childhood in the ethnographic literature. Most of these reports merely gave a description of ceremonies at birth and naming and of initiation rites. Sometimes a description of the play group, or of children's games, and vague comments on how parents treated their children were also included. Infrequently fieldworkers like Kidd, Junod, and Milne[2] presented more detailed observations of the behavior of children in their monographs. Miller and Hambly[3] assembled the available data in comparative works on primitive education, which suffered from the paucity of good material.

The influence of Freud was responsible for awakening the interest of a number of anthropologists in the problem of child training. Malinowski[4] and later Richards[5] used data on primitive childhood to criticize certain aspects of Freud's theory and to verify others. Recently Kardiner[6] has used primitive data gathered by Linton to revise the implicit instinctivism of Freud and to verify his general theory of personality development. The pioneer in the gathering of data on primitive childhood, and one who has probably had the greatest influence on the later fieldworkers who have become interested in this problem, is Margaret Mead.[7] Her work was

113

[2] D. Kidd, *Savage Childhood* (London, 1906); H. A. Junod, *The Life of a South African Tribe* (Neuchatel, 1912); Mrs. L. Milne, *The Home of an Eastern Clan* (Oxford, 1924).

[3] N. Miller, *The Child in Primitive Society* (New York, 1928); W. D. Hambly, *Origins of Education among Primitive Peoples* (London, 1926).

[4] B. Malinowski, *Sex and Repression in Primitive Society* (London, 1927).

[5] Audrey Richards, *Hunger and Work in a Savage Tribe* (London, 1932).

[6] Abram Kardiner, *The Individual and His Society* (New York, 1939).

[7] Margaret Mead, *Coming of Age in Samoa* (New York, 1928); *Growing Up in New Guinea* (New York, 1930); *Sex and Temperament in Three Savage Societies* (New York, 1935).

I: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

also in part instigated by Freud's theories, and in part by the cultural relativism of Boas. She demonstrated unequivocally that personality and temperament are determined by child rearing, and vary from society to society. Other fieldworkers, notably Kluckhohn,[8] Du Bois,[9] and Gorer[10] have given further documentation to this point of view and in addition have made contributions of their own to the theory of the relationship between child training and personality development in primitive societies. Finally Erikson,[11] a practicing psychoanalyst, has turned his attention to this problem and has reported on fieldwork which he did among the Sioux.

Following Malinowski's functional approach to primitive education[12] a number of his students have given excellent descriptive accounts of primitive education. Outstanding among these have been Firth[13] and Evans-Pritchard.[14] In addition Fortes,[15] Hogbin,[16] Wedgewood,[17] and Raum[18] have written special accounts of primitive education from a functional point of view.[19]

Since but few of these fieldworkers had concerned them-

[8] C. Kluckhohn, "Theoretical Bases for an Empirical Method of Studying the Acquisition of Culture by Individuals," *Man*, 89, 1939; Paper read before Monday Night Group, New Haven, 1940.

[9] C. Du Bois, Papers read at Eastern Sociological meetings, 1940, and Yale Anthropology Club, 1940.

[10] G. Gorer, *Himalayan Village* (London, 1938).

[11] E. H. Erikson, "Observations on Sioux Education," *The Journal of Psychology*, VII (1937), 101–156.

[12] B. Malinowski, *The Sexual Life of Savages* (New York, 1929).

[13] R. Firth, *We, the Tikopia* (New York, 1936).

[14] E. E. Evans-Pritchard, *Witchcraft, Oracles, and Magic among the Azande* (London, 1937).

[15] M. Fortes, "Social and Psychological Aspects of Education in Taleland," *International Institute of African Languages and Cultures*, Memorandum XVII, 1938.

[16] I. Hogbin, "Education at Ontong Java, Solomon Islands," *American Anthropologist*, XXXIII (1931), no. 4, pp. 601–615.

[17] C. H. Wedgewood, "The Life of Children in Manam," *Oceania*, IX (September, 1938), no. 1.

[18] O. F. Raum, *Chaga Childhood* (London, 1940).

[19] This brief survey of the main trends of fieldwork on primitive childhood makes no pretense of completeness. For the most complete bibliography on the subject see J. Gillin, "Personality in Preliterate Societies," *American Sociological Review*, IV (1939), 681–702.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 selves with the problem of the transmission of culture as a process, or had published their reports when this study was projected, it was determined to make a field study of the problem rather than a cross-cultural inquiry based upon the literature.

A preliminary field trip with Professor George P. Murdock to the Tenino Indians of Oregon demonstrated the feasibility of the project and provided valuable ethnographic experience. This work, however, indicated the desirability of choosing a tribe which was not "broken down" by contact with the whites. It proved difficult to study how Indians brought up their children when most of them were away at the government school learning the three R's.

On my return from this field trip, I found that Mr. Stephen W. Reed was also anxious to make a study of a primitive society. Together we picked New Guinea as an area which would best suit our requirements. The ethnographic literature concerning the island showed that the tribes were small and homogenous, government weakly developed, castes and classes lacking, and economic specialization slight. It seemed, therefore, that the criterion of simplicity would here be fulfilled. There was also a strange series of rites of passage, which, it appeared, would provide a contrast to our own culture. Finally, since New Guinea is one of the world's last frontiers—much of it, indeed, is still unexplored—we hoped to find a tribe which was little affected by contact with Europeans. Fortunately for us, Professor Richard Thurnwald was in New Haven at the time, and with his advice we were able to narrow our field to the Sepik River district of the Mandated Territory.

121 122 114 Since work with Professor Dollard indicated that the hypotheses developed by Freud were outstanding among the theories of socialization and since it seemed probable that the psychoanalytic method of interviewing might be useful in the field, I began a training analysis during the following winter. I worked under Mr. Earl Zinn for five months before leaving for the field.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

CHAPTER VII

THE PROCESS OF SOCIALIZATION

THE previous chapters have stressed the particular customs which Kwoma society chooses to transmit to its children, the categories of persons who teach them, and the stage in the life cycle of the individual to which these customs apply. The purpose has been to present the data on these aspects of Kwoma life so that they might be useful for comparative or historical purposes.

The present chapter is devoted primarily to an inquiry into the nature of the transmission of culture and to a psychological analysis of the manner in which this transmission takes place. Although Kwoma data are employed in this analysis and the statements are made in terms of these data, the purpose is to develop hypotheses concerning the process of socialization which have significance not alone for the Kwoma but for all cultures. It is obvious that such hypotheses, validated by only a single society, cannot be considered more than tentative. Since the data with which to test these hypotheses in other societies have not yet been reported in the anthropological literature, they are presented in this form, primarily in the hope that they may be sufficiently suggestive to be tested by those future fieldworkers who become interested in a theory of the transmission of culture.

Were the transmission of culture a genetic process, it would be expedient to turn to the biologist for a basic theory of socialization. Anthropologists have demonstrated, however, that the behavior of peoples in various societies is not instinctive but cultural; it is a matter of habits. Since a habit is something which is learned, it is evident that a theory of learning must form the basis for an understanding of the process of socialization.

The theory of learning developed by psychologists has been demonstrated to apply both to animals and to men in Western society. It may be assumed that this theory also

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

applies to the behavior of the members of other human societies. Such an assumption follows from the more general hypothesis of the basic psychological unity of mankind, an hypothesis which has been supported by anthropological evidence. Although it may be assumed that the basic mechanisms of learning apply to the Kwoma, it remains to be demonstrated how the Kwoma take advantage of these mechanisms to indoctrinate and train the oncoming generation; from this evidence some hypotheses concerning socialization may be developed.

Learning does not take place in a vacuum, but only when certain necessary conditions are present. In social learning these conditions are determined by the society, the culture, and the natural environment, whereas in the laboratory the conditions have been determined by the experimenters who have artificially and systematically varied them. Psychologists have built mazes of different shapes, decided where and when to provide food or electric shock, and carefully controlled the degree of hunger of the experimental animal by withholding food from it. With human subjects they have similarly varied the conditions. They have used fear of authority and the wish for approval as motives and employed praise or money as rewards whenever the problem investigated demanded it. It has been expedient for the psychologists to control the conditions in this way, for by so doing they have been able to discover many of the dynamics of learning. From the point of view of the social scientist concerned with the problem of socialization, however, psychologists have accomplished only part of the task, for the conditions under which social learning takes place are determined by the necessities of social living and by the regulations of the existing culture. The conditions of social learning are for the social scientist to study, not to manipulate.

Before examining the social and cultural conditions of learning, it will be helpful to present a summary of the findings of the psychologists which are most relevant to the present problem. Reinforcement, the most basic of learning principles, can best be presented in the following paradigm. This

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

statement of the essential conditions for habit formation has been adapted from the theories of Pavlov, Thorndike, and Hull by Miller and Dollard.[1] Since this adaptation has been developed for use in the field of social learning, it precisely fulfills the requirements of this chapter. In order to learn, an animal must be motivated, he must act, he must perceive the cues that are present during his action, and he must gain satisfaction. In outline form the Miller-Dollard paradigm may be presented thus: There must be a

A. *Drive* or drives of sufficient intensity to produce a
B. *Response* or series of responses made in the presence of
C. *Cues* which stimulate the animal's receptors until a[2]
D. *Reward* reduces the intensity of the drive.

Whenever the above conditions occur, the bond which connects the drives and cues to the response is strengthened. That is, when the organism again experiences the same drive and the same cues, it will have a greater tendency to make the same response. In the early stages of learning the increment in the strength of the habit is large, but after the conditions represented in the paradigm have been frequently repeated, and the habit well established, the increments become progressively smaller. Each time the conditions expressed in the paradigm are repeated and the habit thereby strengthened, reinforcement may be said to have occurred.[3]

The drives which are of greatest importance in the process of socialization are: hunger, thirst, sex, colon distention, bladder distention, heat, cold, fatigue, and pain.[4] Each of these drives may vary in intensity, and this variation is a function of the interaction between the organism and the environment.

[1] See N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. ii.

[2] Cues are also present during and after the reward, but these are not relevant to the formation of the habit in question.

[3] See N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. ii; E. R. Hilgard and D. G. Marquis, *Conditioning and Learning* (New York, 1940), chap. 4; C. L. Hull, "Outline of a Systematic Theory of Learning," *Educational Psychology Yearbook* (in press).

[4] For a recent statement of socially relevant drives see H. A. Murray, *Explorations in Personality* (New York, 1938), pp. 67–89.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 The intensity of the hunger drive depends both upon metabolic processes within the organism and upon the amount and kind of food provided by the environment. The hunger becomes more intense as the number of hours of food deprivation increases. It becomes strong more quickly when the expenditure of energy increases the rate of metabolism. Its intensity is an inverse function of the amount of food previously ingested and depends in a complex manner upon the physiological needs of the organism and how adequately they have been satisfied by the types of food available. In a similar way the other drives vary in intensity according to processes which take place within the organism and according to factors in the external environment which need not be detailed here.[5]

Acquired drives, as well as the above-listed basic ones, motivate behavior and belong in category A of the Miller-Dollard paradigm. Although these acquired drives are most frequently found to be the immediate impelling force for social habits, their intensity and even their very existence depend upon a continued relationship with basic drives.[6] It is not necessary here to describe the manner in which acquired drives come into being, but simply to state that whereas basic drives depend upon the relationship between the organism and the environment, acquired drives depend, in addition, upon the past experience of the organism. In other words, acquired drives must themselves be learned. Fear,[7] anger,[8] the wish for prestige, the desire for money, the

[113] [5] The best evidence for the factors which govern the intensity of drives has been adduced by the physiologists; for hunger see W. B. Cannon, *The Wisdom of the Body* (New York, 1932); for a general statement see C. P. Richter, "Animal Behavior and Internal Drives," *The Quarterly Review of Biology*, II (1927), no. 3, pp. 307-343; for experimental evidence on drives see P. T. Young, *Motivation in Behavior* (New York, 1936).

[113] [6] For a detailed account of acquired drives see N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. iv.

[113] [7] See S. Freud, *The Problem of Anxiety* (New York, 1936); E. Zinn, "Anxiety, Clinically Viewed," and O. H. Mowrer, "Anxiety, Some Social and Psychological Implications," *Papers Presented before the Monday Night Group* (1939-40), pp. 116-144, Institute of Human Relations, Yale University.

[113] [8] See John Dollard, *et al.*, *Frustration and Aggression* (New Haven,

I: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

wish for words of praise, the craving for affection, and the various conditioned disgusts and appetites are examples of acquired drives.

The second essential of learning is that a response shall be made. Responses may be gross muscular, such as walking, running, throwing a spear; glandular, such as the secretion of gastric juices; verbal, such as issuing a command; or ideational, such as thinking, fantasying, or planning. In fact, any activity of the organism falls in the category of a response.

Cues, the third essential for learning, are those stimuli which act as guides in the performance of any response. They tell the organism when, where, and how to act. They may originate from objects outside the organism, such as patterns of light, sound, smell, taste, and touch, or they may arise within the organism, as in the case of feelings of hunger, thirst, bladder and colon distentions, stomach cramps, and stimuli arising from the movement of muscles.[9] A cue is thus any stimulus which is appreciated by an organism and which acts as a guide in the learning or performance of a habit.

Reward, the final essential condition for the formation of a habit, may be defined as an event which reduces the intensity of a drive. The ingestion of food reduces the hunger drive; drinking reduces thirst; sexual orgasm reduces the sex drive; defecation and urination reduce colon and bladder distentions; escape from heat, cold, fatigue, and pain effect the reduction of the heat, cold, fatigue, and pain drives.[10]

Since there are acquired drives, there are also corresponding acquired rewards. In so far as one is motivated to strive for social goals, he gains satisfaction from achieving them. Safety, high status, the destruction of enemies, the gaining

1939); N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. iv.

[9] Both drives and cues are stimuli. When the intensity of a stimulus is its most important function, it may be spoken of as a drive, when it functions primarily as a guide, it may be referred to as a cue.

[10] The response which is most closely correlated in time with a reward is called a goal response.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 of money, hearing words of praise, receiving affection, avoiding disgusting objects, and satisfying appetites are some of the common acquired rewards which are present in our society.

121 853 The Miller-Dollard paradigm may be illustrated from the Kwoma data presented in the previous chapters. An example will be taken more or less at random from each period in the life cycle in order to elucidate the terms of the paradigm. Kwoma infants when they are hungry turn toward their mother's breast and suckle. In this case the drive is hunger; the response is turning toward the mother's breast and suckling; the cues are the sight of the mother and her breast, and the feeling of contact with her; and the reward is the ingestion of milk. From many repetitions of this sequence an infant learns the habit of turning toward the mother's breast and suckling when he is hungry in the presence of the mother.

121 862 During the weaning period a Kwoma child learns not to cling to his mother.[11] In this case the drive is pain from being pushed away and the fear of being scolded, the response is staying away from the mother, the cues are the presence of the mother, and the reward is escape from pain and reduction of fear.

121 796 858 During childhood a Kwoma boy learns to avoid the house tamberan while ceremonies are being held. The drive in this case is anxiety (he is warned that he would die if he did so); the response is avoiding the house tamberan; the cues are the sound of the gong rhythms, the statements of others that a ceremony is being held, the sight of his father, *uncles*, and older *brothers* decorating themselves; the reward is escape from anxiety. In adolescence a boy learns to carry on secret

121 883 836 love affairs with adolescent girls. The drives are sex, sex appetite, and anxiety (sex impells him to seek girls, sex appetite leads him to choose a girl culturally defined as attractive, and anxiety impells him to do so secretly); the response is the complex of behavior which leads to and includes sexual intercourse in the bush; the cues are the sight of an attrac-

[11] Not to cling to his mother should be thought of as a habit of avoidance involving active responses, rather than as the absence of a habit.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

tive girl, verbal permission from her, the environmental scene which has both public and secluded spots, etc.; the reward is sexual orgasm, satisfaction of sex appetite, and anxiety reduction. The adult habit of beating gongs against sorcery when a relative becomes ill may be used as a final illustration of the paradigm. The man's drives in this case are fear that he, too, may become ill unless the sorcery is stopped, fear that his relatives may die, and anger at the sorcerer; the response is going to the house tamberan and beating the gongs in a particular way; the cues are those which indicate that a relative is sick; and the reward is a reduction in fear and anger. Thus, although the habits become more and more complex[12] as the individual matures, the four essentials of learning and performance pertain to the behavior of individuals of all ages.

A Kwoma child learns but a small part of his cultural habits by free trial and error, that is, without some member of his society guiding and directing him.[13] Were he to do so, he would learn those habits which were most rewarding to him and to him alone.[14] This, however, is not what actually happens. He is forced to learn, not the habits which might be most rewarding to him alone, but the habits which are specified in the culture as being best. For generations before his birth his forbears have tried various ways of dealing with one another and with their environment. Those habits which were successful have persisted in the form of customs, while those which have failed have either suffered extinction or passed out of existence with the untimely death of those who

[12] It is not the particular purpose of this chapter to detail how complex habits are learned, although this is a crucial problem. Hull has suggested a very important mechanism as a partial explanation in his theory of the assembly of behavior segments. This theory, together with the integration of habits on a cultural level, should go far toward the solution of the problem. See C. L. Hull, "The Mechanism of the Assembly of Behavior Segments in Novel Combinations Suitable for Problem Solution," *Psychol. Rev.*, XLII (1935), 219–245.

[13] Limited trial and error operate in nearly all learning situations. The concept of free trial and error is used here to mean learning which takes place without the guidance or interference of any other person.

[14] See C. L. Hull, "The Concept of the Habit-Family Hierarchy and Maze Learning," *Psychol. Rev.*, XLI (1934), 33–54, 134–152.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 tried them.[18] For various reasons this accumulation of adap-
861 tive habits is passed on to the child. He does not simply learn to get along in the world; he is socialized. Thus an essential set of conditions for social learning is the behavior of the socializing agents. The remainder of this chapter will be devoted to an analysis of these conditions and their relation to social learning.

Before the analysis of teaching techniques is undertaken, several terms which are to be used should be defined. The terms "teacher" and "pupil" will be employed in a special sense, the former to mean anyone who attempts to change the habit structure of another person, the latter, any person whose habit structure is being so changed. Although Kwoma parents most frequently play the rôle of teacher, with their children as pupils, the teacher-pupil relation is not by any means restricted to them. Co-mothers, siblings, *paternal uncles* and *aunts*, and other relatives frequently play the rôle of teacher as well. The concept of teacher will also be extended in this context even to an adult who tries to influence the behavior of another adult. Although such behavior may be considered an act of aggression or coöperation, as the case may be, it is also a teacher-pupil relationship if a habit of the pupil is thereby strengthened or weakened.

A second set of terms will be used for responses, which will be characterized as "right," "not right," "wrong," and "not wrong." A right response is a specific act which the teacher wishes the pupil to make, whereas not right responses are all those acts which are incompatible with the right response under the given conditions. Similarly, a wrong response is a specific act which the teacher wishes the pupil not to make, and not wrong responses are all those acts which are incompatible with the wrong response under the given circumstances. These concepts may be illustrated from the cases which will be reported in detail below. When Wof punished Buka for failing to gather firewood, "getting firewood" was the right response, while playing, sleeping, eating, gossiping,

[113] [18] See A. G. Keller, *Societal Evolution* (New York, 1929); W. G. Sumner, *Folkways* (Boston, 1906), chap. v.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

or any other response which Buka might make when she should be getting firewood can be described as not right responses. When Mes warned Kwos not to play with a cartridge, "playing with the cartridge" was the wrong response, while doing anything else would be the not wrong responses. Teachers normally describe the specific act, whether it be right or wrong, and refer to the not right or not wrong responses as the negative of the specific act. Sometimes they exemplify the not right or not wrong, by stating a specific act in the negative category. For example, in the above cases Wof may have specified playing as one of the not right acts which Buka did, or Mes might have specified joining the play group as a not wrong response. Teachers normally try to make their pupils learn to make a right response or to make a not wrong response. The other two categories, not right and wrong, denote behavior which the teacher wishes to prevent, but which he can prevent only by teaching the pupil an incompatible habit, i.e., right or not wrong, respectively. This will be illustrated in the cases to be analyzed below.

In socializing their pupils, Kwoma teachers use various techniques, all of which make practical use of the paradigm of learning presented above.[16] Some of these techniques stress motivation, some the response, some the cues, and some the rewards, but the whole process is implicit in all of them. Kwoma teachers use different techniques for different situations; the kind of habit to be taught, the age and maturity of the pupil, and the kin relationship between teacher and pupil are some of the factors that determine which technique shall be used. The following presentation does not purport to be a complete list of the methods of teaching employed at Kwoma nor a full account of the situations in which they are used, but is rather an analysis and description of the more important ones observed.[17]

[16] Since pupils in our society learn by the same mechanisms as do Kwoma pupils, it is not surprising that many of the techniques of teaching in the two societies are similar. In fact, the following techniques will seem quite obvious to anyone who has been either a parent or a teacher.

[17] The following theory of teaching techniques was not worked out before the data were gathered. For this reason the cases analyzed below were not

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 Unless the essentials for learning are already provided by the interaction of the environment and the pupil, they must be supplied by the teacher. In other words, when such conditions are not already present, the teacher, in order to change the habit structure of the pupil in the desired manner, must provide *motivation*, *guidance*, and *reward*. Each of the various teaching techniques employed at Kwoma may be classed under one or another of these three categories. The following table presents this classification:

1. Providing motivation
   a. punishing
   b. scolding
   c. threatening
   d. warning
   e. inciting
2. Providing guidance
   a. leading
   b. instructing
   c. demonstrating
3. Providing reward
   a. giving
   b. helping
   c. praising

A Kwoma teacher must often provide motivation in order to make his pupils learn the habits which he wishes to teach them. He employs five techniques for doing so: punishing, scolding, threatening, warning, and inciting.

Punishment is not infrequently employed by a Kwoma teacher when other methods fail to correct the behavior of a pupil or when his behavior is particularly annoying to the teacher. A teacher punishes a child after he has made a wrong, or a not right response. The mode of punishment is usually either a blow on the back with the fist or a blow on the legs with a stick. The following cases will serve to illustrate its use.

Wof left early one morning with his second wife, Chinuwa, to work in his garden. Since his first wife, Kaya, had previ-

[128] carefully followed up, and observations with which to test the predictions arising from the analysis were frequently not made. The rather complete record of daily events which was kept did, however, provide data to check some of them.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

ously sprained her ankle and was incapacitated, he told his adopted daughter, Buka, to replenish the supply of firewood, which was very low. When he returned late that afternoon, he discovered that Buka had not obeyed his command and that there was not even enough wood to cook the afternoon meal. He, therefore, called to Buka and, telling her that she was lazy and disobedient for not getting the wood, struck her several times on the back. Buka cowered and ran away crying. Wof continued for some time to scold her in a loud and angry voice. Since I observed her a few days thereafter going by my house with her net bag filled with firewood, the punishment was presumably effective.

In order not to make the error of taking the effect of punishment on the habit structure of a pupil for granted, it is expedient to analyze the above case in detail in accordance with the paradigm of learning. It can be seen from such an analysis that the drive was that of pain from a blow on the back; the responses were running away, and crying; the cues were the sight of Wof, his words of criticism for not having obeyed his command to get firewood, and the memory of his command; the reward was escape from the pain of the blow. From this analysis it is evident that the habit which was reinforced was that of running away and crying when the cues described above were present. Wof, presumably, did not wish to teach her this habit but rather that of getting the firewood when he told her to. Although the punishment evidently did have this effect, it has not yet been shown how this came about. It is necessary to introduce the principle of anticipation to explain it.

By the principle of anticipation[18] any response which is attached by reward to the last of a temporal series of cues tends to occur earlier in the series. Thus when Wof again commands Buka to get firewood she will have a tendency to run away, to cry, and to make various visceral responses induced by pain. In other words she will have anxiety.[19] If she

[18] C. L. Hull, "Goal Attraction and Directing Ideas Conceived as Habit Phenomena," *Psychol. Rev.*, XXXVIII (1931), 487–506.

[19] Freud defines anxiety as the anticipation of pain. See S. Freud, *The*

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

[121 861] were to run away or cry under these circumstances, she would be doing something other than getting firewood. In other words she would be making not right responses as implied by Wof's statement of the reason for the punishment at the time of its occurrence. To run away and cry would therefore tend to raise her anxiety rather than to reduce it. Similarly, if she played, went to sleep, ate, or made any response other than getting firewood, her anxiety would not be reduced, for all such acts have been implicitly defined by her father as "not getting firewood responses." The only way in which she can reduce her anxiety is to get the firewood. When she does this and only when she does this, the real effect of punishment as a teaching technique becomes clear. The drive is anxiety; the response is getting firewood; the cue is her father's command; and the reward is the reduction of anxiety. It is thus that Wof's punishment was not in vain and did accomplish the effect that he desired.

The following case also illustrates the use of punishment by a Kwoma teacher. One afternoon, when several Rumbima children and adolescents were playing in front of my house, the ball which they were kicking bounded into the bushes. Gwiyap, an adolescent, commanded Ham, a child, to fetch it, and when he refused kicked him in the buttocks. Ham ran away crying. Several days later the situation was repeated, and this time Ham ran away as soon as Gwiyap issued the command. Weeks later I observed Ham obediently fetch the ball, at first only after he was ordered to and later on his own initiative.

In the above case the drive was the pain from Gwiyap's kick; the response was running away and crying; the cues were the ball in the bushes, the sight of Gwiyap, and the sound of his commands; the reward was escape from the pain

[113] *Problem of Anxiety* (New York, 1936). O. H. Mowrer has developed this thesis and urged that anxiety is a learned response based upon an anticipatory response to pain. See O. H. Mowrer, "A Stimulus Response Analysis of Anxiety," *Psychol. Rev.*, XLVI (1939), 553–565. Miller has shown that the acquired drive value of anxiety is based upon the response-produced stimuli of an antedating pain reaction. See N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. iv.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

of being kicked. From the principle of reinforcement it could be predicted that Ham would learn to run away when these cues were again present. Observation bore this out. It could further be predicted that he was also reinforced on this occasion, the reward being escape from anxiety. However, just as Wof presumably did not wish to teach Buka to run away, so Gwiyap wanted to teach Ham to fetch the ball for him rather than to escape. That he was successful in doing so remains to be explained. It has been shown in a previous chapter that Kwoma children spend most of their time playing with other children, an activity which is apparently rewarding to them and hence one which comes to have the value of an acquired reward. Exclusion from playing with one's fellows should thus have an acquired drive value. There is no evidence that Ham was exceptional in these respects. Therefore each time that he ran away, although by so doing he achieved the reward of the reduction of pain or anxiety, he was thrown into another situation of discomfort. The acquired drive to play with his fellows was aroused. This placed him in a conflict situation:[20] to play aroused the fear of being kicked; not to play aroused the discomfort arising from being excluded from the game. Ham finally solved this dilemma by obeying Gwiyap's command. On this occasion, if the above analysis is correct, the drives were the fear of being kicked and the wish to play with his fellows; the response was fetching the ball; the cues were the ball in the bushes and Gwiyap's command; and the rewards were escape from being kicked and joining in the ball game. Thus Gwiyap's kick finally did have the desired effect, but only after time had elapsed and after a rather complicated series of psychological events had occurred to Ham.

This analysis suggests that another factor may have been operating in the case of Wof and Buka. She might have learned not only to run away from Wof, but to stay away from him. Unless some relative were willing to care for her,

[20] For a discussion of the factors governing conflict see N. E. Miller and J. S. Brown, "Conflict, an Analysis of Approach and Avoidance" (in preparation).

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

• 121 861 however, she would be in the same dilemma as the one in which Ham was placed, the negative side being much more serious, since it would be impossible for a girl of Buka's age to live alone in the Kwoma environment. Thus it is apparent that the primary effect of physical punishment is to make a pupil run away,[21] but that the strong acquired reward value which teachers have for the pupil, as a result of his dependence on them, and the fear of being alone, bind him to the teacher until he learns the habit which the teacher has wished to instill in him.

In the cases analyzed above the teacher was bigger than the pupil. When teacher and pupil are of the same size or when the pupil is bigger than the teacher, the response to punishment is often counterattack rather than running away.[22] The case of Fit and Mey illustrates this. Fit struck Mey for teasing him, and Mey grabbed a burning brand from the fire and began belaboring Fit with it. In this case Mey's drives were pain from Fit's blow, anger at Fit,[23] and the fear of being hit again; the response was attacking him with a firebrand; the cues were the sight of someone his own size and the feeling of the blow; and the rewards were reduction of the pain from Fit's blow, the reduction of the fear of being hit again, and the reduction of anger. Thus Mey was

[21] In the middle and upper classes of American society, pupils are not usually permitted to run away from punishment. They are either held by the parent or punished more severely if they attempt to escape. The usual response which is reinforced is the promise "I won't do it again." Furthermore, doing wrong in secret is more severely punished in the United States than at Kwoma. The American technique should be more effective in teaching the correct response, but, at the same time, it should produce more anxiety in the pupil than does the Kwoma technique. A correlation of the extent to which parents in various societies permit children to escape punishment and do wrong in secret, and the degree to which the society produces neurotic adults might be fruitful.

[22] When such a situation arises between adults, it is normally the reputation of the teacher and the pupil as fighters and the size of the group which supports each of them, rather than their physical size, which determines whether the pupil counterattacks or runs away.

[23] The conditions at Kwoma are such that anger as a response to pain is frequently reinforced, particularly with respect to younger siblings. See chap. iv, pp. 57–62.

[152]

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

rewarded for aggression, instead of learning to stop teasing as his would-be teacher wished.

A Kwoma teacher scolds his pupils even more frequently than he punishes them, and uses this technique under similar circumstances. In fact, in all the cases that I observed of a teacher inflicting physical pain on pupils, he also scolded them. Scolding, like physical punishment, is employed by the teacher after the pupil has made a wrong or a not right response, and it can be presumed to operate psychologically in the same manner, except that the drive employed is acquired rather than basic.

Scolding acquires its motivational power in the following way. One of the most common phrases used by a Kwoma teacher in scolding a pupil is *kafwa sek otato*, "you have behaved badly." *Kafwa sek* is a modifier which is applied to rotten meat, to feces, to food "poisoned" by sorcery, as well as to bad behavior. Thus these words are associated with things which are disgusting or dangerous—things which all children have learned to avoid because of the pain which is inherent in such objects, because they have been punished for touching or eating them, or both. Furthermore, since a pupil is always scolded while he is being punished, these words come to symbolize a beating as well, and thus gain the power to evoke feelings of fear.

A second phrase frequently used by Kwoma teachers in scolding a pupil is *karaganda yikafa*, "little child" or "infant." This phrase implies that the pupil is behaving like an infant. It is the antonym of *harafa ma malaka*, "big older brother man," which is used for praise. Like *kafwa sek*, this phrase is used during physical punishment frequently enough so that it gains a strong fear potential. In addition, it is used in many contexts in which children are barred from doing what they would like to do. Thus the phrase comes to mean the denial of privileges. The fact that Kwoma children will mutilate their penises and willingly undergo scarification in order not to be classified as *karaganda yikafa* indicates the motivational power of this concept.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

sago briquettes, she asked Mey to pass her the two sticks which Kwoma housewives use to stir and ladle the thick gruel. Mey brought her two old sticks which she had long since discarded rather than the desired ones. She made Mey take the wrong ones back and get the right ones and began scolding him for his inattention and stupidity. Mey stood looking sullen and sheepish, and heard out her tirade. In this case the drive was anxiety evoked by the scolding; the response was looking sullen and sheepish and listening; the cues included being told to get stirring sticks and the memory of having brought his mother the wrong ones; the reward was reduction of fear (after she stopped scolding him). Thus listening and not talking back, rather than running away, was the response reinforced in this case.[24] The right response, of paying attention when spoken to, would be learned by Mey when on the next occasion he was asked to do something by his mother, did it correctly, and was not scolded for it.

Threatening is the third technique of motivating pupils employed by Kwoma teachers. A threat, like scolding, activates the acquired drive of fear in the pupil, but it differs from scolding in that it precedes the wrong or not right response. A threat is an "if . . . then" statement—"if you do such and such, then I will scold or beat you." Threats are used by Kwoma teachers in situations where they foresee that the pupil is likely to make a wrong response, either because the pupil is beginning to make such a response or because the teacher's knowledge of the pupil's habits suggests that he may do so. Kwoma teachers employ the technique of threatening as widely as scolding although perhaps not as frequently, since it is usually more difficult to predict a wrong response than it is to observe one.

Threats, like scolding, depend for their motivational power upon the acquired drive of fear. The phrase most commonly employed by the Kwoma teacher when threatening a pupil is *anafa fiju*, "I will beat you." *Fiju* is the term employed for all types of physical violence and injury. It has

[24] Unfortunately I observed no case of a child being specifically scolded or punished for talking back, but informants stated that this did occur.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 861 [192] [196] the meaning of fighting, beating, spearing, and killing. *Fiju* was the word used to denote the fight between Daw and Kwal in which the latter received a bad scalp wound; to denote Mey's action when he struck Fit on the back with a burning firebrand; by hunters when they successfully spear and kill a pig; and to killing someone in a head-hunting raid and to in-group murder. From these contexts, many of which have been directly experienced and all of which are known to Kwoma pupils, it is evident that the threat *anafa fiju* should arouse anxiety. Furthermore, teachers usually carry out their threat by beating the pupil if he does not heed. From these two sources, therefore, a threat gains the power to evoke fear in the pupil.

The following case will serve to illustrate threatening as a technique of teaching. Kum, while playing under the porch at Mar's house one afternoon, picked up a broom and started carrying it outside. Kwiya and Awa, his older *sisters*, both noticed him and told him to put it down. Kum did not heed at first, but when Kwiya threatened to beat him unless he did so at once, he quickly dropped the broom. In this case the drive was the fear of being beaten; the response was dropping the broom, the cues were the instructions to drop the broom given by Kwiya and Awa, the sight of objects and people under the porch, the feeling of the broom in his hand, etc.; the reward was the reduction of the fear of being beaten. It can be seen that the effect of a threat on learning is somewhat different from the effect of punishment and scolding. In the first place, the right response is made immediately rather than on a subsequent occasion, and, in the second, the motivation is stronger, since a fear-evoking person is present when the pupil makes the right response and the reinforcement is consequently greater.[23]

121 626 602 Social control is largely effected by means of threats. In Kwoma the threat of breaking relationship is one of the more important techniques by which an adult can control the be-

[113] [23] The amount of reinforcement is probably a positive function of the strength of the drive. See C. L. Hull, "Outline of a Systematic Theory of Learning," sec. v, *Educational Psychology Yearbook* (in press).

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

havior of a relative. The case of War and Gwiyap will serve to illustrate how this technique operates. Gwiyap had for some time been taking sago flour from the plot of his *maternal uncle*, Payap. War, Gwiyap's *paternal uncle*, discovered this and told him to stop. He explained that he was more closely related to Payap than was Gwiyap. Gwiyap chose to argue this point and tried to maintain his claim, whereupon War threatened to break relations with him. In response to this threat Gwiyap turned over the privilege to War and paid him for the sago he had already taken.

In the above case the drive was fear of a broken relationship with War;[26] the response was giving up the privilege, paying War, and getting sago from another plot; the cues were War's words and the knowledge of having taken sago from Payap's plot; the reward was reduction of the fear of a broken relationship. Thus Gwiyap learned to behave correctly with respect to his kinship privileges and to heed the threats of his relatives. The fear of sorcery and of other retaliatory measures tends similarly to maintain correct social behavior. Theft, trespass, and breaking sex mores or rules inhibiting aggression, result in threats from those who suffer from these deviations from custom, whereas right behavior is continually reinforced by the reduction of fear implied by these threats.[27]

The fourth technique which teachers may use to motivate their pupils is to warn them. A warning is similar to a threat except that the source of the specified pain is some person or some event in the natural environment other than the teacher. A warning normally consists of two elements: a specification of the danger and its source, and instructions for escape from or avoidance of the danger. If the danger is imminent, the teacher normally introduces a warning by a sharp ejaculation—either *e ye!* (no!) or *sa!*, an expletive to call attention.

[26] As previously noted, a broken relationship involves removing the taboo which is implied by a safe kin relationship, and the loss of cooperation and support.

[27] A much more elaborate analysis of the relationship between threats and social control might be profitably made, but it is not within the scope of this chapter to do so.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 Warnings are extensively used by Kwoma teachers. A
861 Kwoma pupil in the course of his life is normally warned about all the dangers which inhere in the natural and social environment.

The following case exemplifies how a child is taught to avoid danger by means of the technique of warning. I had removed the shot from some twelve-gauge cartridges which had spoiled and lit the powder in them for the amusement of the natives. The powder exploded with a harmless puff. Kwos, seeing me do this, decided to try it himself. Mes, his older brother, saw him and warned him not to. He said that cartridges were dangerous and could kill people. Not heeding the warning, Kwos tried to light one. The cartridge did not explode at first so Kwos looked into it to see what the matter was. At that moment the powder exploded directly into his face, burning it so badly as to close one of his eyes. In this case the drive was pain from the explosion and burn; the response was withdrawal from the cartridge, and a visceral pain response; the cues were the cartridge and the words of warning which Mes issued; the reward was reduction in the pain of the explosion.[28]

It should be noted that stopping playing with the cartridge accorded with the instructions in Mes' warning. The effect of this experience on Kwos should have been to reinforce both heeding a warning and not playing with cartridges. There is evidence that exactly this did occur. Kwos did not play with cartridges again, and he heeded a warning not to walk around alone. Although he could barely see out of one eye, he came from his house to mine to get salve. His father came later and warned him not to return home alone lest he get lost. Kwos, heeding this warning, waited until his sister came and led him home.

Kwos' teachers were not satisfied with the lesson he learned from the explosion but scolded him in addition. Waramus, his father, told me in the presence of Kwos, "He will go

[28] The pain of the burn persisted much longer and reinforced whatever successful attempts were made to ease it, asking me for salve and applying it to his face being one of them.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

blind; he will never be able to see again; but it serves him right for not heeding his brother's warning." Kis, one of his *paternal uncles*, said to him, "You little feces-eater, that's what you get for not heeding your brother." The habit of heeding a warning thereby gained additional reinforcement as a result of the application of the technique of scolding.

The following case is one in which the warning concerned pain from another person rather than from an event in the natural environment, and in which the warning had been issued some time before the pain was experienced. Ham had been warned by his parents not to walk around in other people's houses. He had been told that, when visiting, he should sit down and remain seated, and that, if he did not do so, the owner of the house would be very cross with him. One day Ham started wandering about the porch of Wof's house. Wof shouted at him to sit down and then scolded him severely.[29] He accused the boy of trying to steal sorcery material and implied that only thieves walk around in other people's houses.

In this case the drive was fear aroused by Wof's scolding; the response was sitting down; the cues were the memory of the warning and the sight of another person's house; and the reward was the reduction of fear. Since the response reinforced in the parental warning corresponded with the instructions issued, that is, sitting down and not walking around, it would be expected that Ham's tendency to heed a warning was increased by this experience. Unfortunately, since I have no record of a warning issued to Ham after this experience, this prediction cannot be tested. About an hour after the experience, however, Ham obeyed with alacrity a command from his mother to pass sago fritters to his father. His alacrity may have been in part due to his recent experience, since both a warning and a command have the common element of instructions.

The only technique of motivating pupils used by Kwoma

[29] Wof was, of course, also a teacher in this case, and he used the technique of scolding. For the present purposes, Ham's parents will be taken as the teachers, using warning as a technique.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 86 teachers which does not depend upon pain or fear is that of inciting. This consists of presenting to the pupil the verbal symbols which have been associated with reward along with instructions as to how to achieve such reward. The following 262 177 case will serve as an illustration. At a coöperative work feast given by Nambomai, my Yambon houseboy, one of the foods prepared was stewed apricots. Gwiyap took it upon himself to teach some of the adults present to eat this food, which was hitherto unknown to them. To do this he said: "It is good. It tastes like ripe bananas." Afolawanj, an old man who was somewhat of a clown, was thus tempted to try some, but he had no sooner taken a mouthful than he spit it out, and refused to eat any more.

In the above case the drive was the appetite evoked by Gwiyap's statement that the stewed fruit tasted like ripe bananas; the response was eating; the cues were Gwiyap's instructions to eat and the sight, smell, and taste of the fruit; the reward was absent. Since there was no reward in this sequence it could be predicted that learning would not take place. The fact that Afolawanj did not again try the fruit is evidence that this was indeed the case. It could also be predicted that Afolawanj would have a decreased tendency to follow Gwiyap's instructions,[30] but I do not know whether or not this was true.

War's attempt to incite Mes and Mar provides a more dramatic instance of the use of this technique. When the Hongwam were planning a head-hunting raid on the Sowal, War, who was the prime mover in the affair, spent a whole evening at the house tamberan inciting Mar and Mes to go on the raid. He described to them all the advantages that they would gain from taking a head—that all the girls would want to marry them, that they could become members of *Nokwi*, that they would gain high prestige so that their words would be listened to at the court meetings, that their

[13] [30] This follows from the principle of extinction. When a response is not followed by a reward, the connection between this response and the preceding cues is reduced in strength. See E. R. Hilgard and D. G. Marquis, *Conditioning and Learning* (New York, 1940), chap. v; N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. iii.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

relatives would be eager to help them in coöperative tasks, etc. He suggested to Mes that he take my shotgun along (he was acting as my shoot boy at the time) because with it he could be certain to kill someone and take his head. Mes asked me for the gun and was very disappointed when I refused. Mar, on the other hand, had seen several river natives hanged for participating in a head-hunting raid and had been so moved by the sight that he was afraid to go. He reacted to War's incitement by weeping and telling me that he guessed he could never be a man. Since traveling conditions prevented the raid from taking place, the correct response could not be made. A few days later a recruiter came to the tribe, and both Mar and Mes "signed on" for a three-year contract to work on a plantation.

Although the reaction of Mes and Mar indicates that War's incitement successfully induced motivation by evoking a complex of acquired drives and appetites based upon sex, hunger, fatigue, and prestige, his teaching was blocked because the correct response could not be made. Since both Mar and Mes said that they were going to work for the whites in order to gain prestige, so as to win an attractive wife, and in order to earn money to buy many wives, "signing on" may have been, in part at least, a substitute for going on the raid.[31]

Kwoma teachers do not always have to motivate their pupils in order to inculcate right responses, for this is frequently done for them either by others or by the natural environment. In such cases their task is to guide the pupil so that he makes the right response and to provide the proper cues.[32] Furthermore, even when the teacher himself motivates the pupil, the problem of guiding him still remains, and Kwoma teachers seldom simply motivate a pupil and

[31] Although it happens that the aim of the teacher was accomplished in neither of the above cases, this does not imply that the technique of inciting is not an effective means of teaching.

[32] Since responses and cues are so closely attached to one another in a habit, it has been deemed expedient to treat these two aspects of learning under a single heading, even though teachers may at times stress the cues and at times the responses.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

permit him to discover the reward by free trial and error. There are three techniques of guidance: leading, instructing, and demonstrating.

The most primitive technique by which a teacher can make his pupil perform the correct response is by leading. To do this the teacher physically limits the random responses of the pupil so that he makes the right response more quickly, or so that he is prevented from making wrong responses. Such guidance is used by the Kwoma primarily when the pupil has not yet learned to talk and therefore cannot follow instructions. The following case illustrates the use of leading. Njan, while lying in his mother's lap one afternoon, began to cry and struggle. His mother lifted him up to her breast, and, holding his head with one hand, directed her nipple into his mouth with the other. Njan began to nurse. Had his mother not directed his head, he would probably eventually have found her nipple as the result of random movements and satisfied his hunger. The mother, by holding his head, prevented him from making errors and thus forced him to make the right response more quickly. Informants stated that mothers taught their children to defecate in the latrine by leading them there and holding them in the proper position. These are the only situations observed in which Kwoma teachers employ the technique of leading, though there may well be others.

Verbal guidance or instruction is probably the most widely used of all teaching techniques. As indicated in the preceding analysis of punishment, scolding, threats, warnings, and inciting, instructions normally form a part of these techniques. In other words, teachers usually motivate and guide at the same time. On rare occasions, however, when the pupil is already motivated by some other agency, a teacher need simply help the pupil to make the right response, or not to make the wrong response, by instructing him.

The following case illustrates the use of instructions as a teaching technique. Fit was trying to light the fire in my cook house one afternoon. A strong wind was blowing, and the matches kept going out. Mar, who was watching him,

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

told him to try lighting the fire on the leeward side. Fit followed the suggestion and was successful. Fit was already motivated to light the fire and was striving to do so. If left to himself he would probably eventually have succeeded, perhaps by hitting upon the response which Mar suggested, perhaps by discovering some other solution to the problem. Mar entered the situation as teacher by giving instructions which, when Fit followed them, achieved the desired goal.

Although the above analysis indicates the function of instruction as a teaching technique and the way in which it operates in a gross way, it does not explain why a pupil follows instructions. In other words, how did Fit know how to react to Mar's words, and why did he react at all? The answer to the first question depends upon verbal symbols and how a pupil learns their meanings. Although this is a most important part of the process of socialization, it lies beyond the scope of this inquiry. An answer to the second question—why does the pupil react to instructions at all?—can, however, be suggested. As has been observed above, instructions normally form a part of each of the teaching techniques which stress motivation. Therefore, since most teaching techniques result eventually in the learning of a rewarding habit, following instructions becomes a strongly reinforced habit. Words of instruction thereby come to have an acquired drive value.

Just as instructing depends upon the pupil's knowledge of language, so demonstrating, the third technique of guiding, depends upon the ability of the pupil to imitate. Miller and Dollard[33] have shown that conditions in our society are such that a child is more frequently rewarded and less frequently suffers pain if he behaves like certain people with whom he comes in contact, particularly his parents and older siblings, than if he makes responses which differ from theirs, and that therefore, by the principle of reinforcement, children learn to imitate. These investigators have also assumed that the conditions which lead children in our society to learn

[33] See N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941).

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

to imitate are present in all societies, and in a chapter on diffusion have presented evidence which supports this assumption. The Kwoma are no exception to this rule. Most of the right and not wrong responses in Kwoma culture apply to all persons, and with respect to these responses a child will be rewarded for imitating anyone. Furthermore, although those responses which are right for only certain categories of persons—particularly those which depend upon the sex, age, or prestige position of the pupil—are both punished and not rewarded if the pupil imitates a person in another category than himself, he is rewarded if he imitates a person in his own category. Thus in the majority of cases a Kwoma is rewarded, and in only a minority of cases is he punished or not rewarded, for imitating. Since Miller and Dollard have presented imitation as a process of socialization in detail, it will not be further discussed here. It stands with teaching as one of the most important mechanisms by which culture is transmitted.

A Kwoma teacher takes advantage of the fact that his pupils have all learned to imitate, when he employs demonstrating as a technique of guidance. In using this technique the teacher gets the attention of the pupil, performs the right response, and then the pupil imitates him. Afok and Fokotay employed this technique when they were teaching Mes and Mar to play the sacred flutes. The two teachers would first play a piece while the pupils watched and listened. Then the two pupils would take the flutes and attempt to imitate them. The teachers would repeat their performance, and the pupils would try again.[84] This example reveals that this technique is similar to instruction, the difference being that the cues are the correct responses made by the teacher rather than his verbal representation of them.

Commanding, as a teaching technique, may be classed either as primarily motivating or as primarily guiding. A command consists of an implicit threat and explicit instruc-

[84] Afok and Fokotay did not depend entirely upon imitation but issued many instructions, scolded the pupils after errors and praised them after a correct performance.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

tions. Since both threats and instructions have been analyzed, it is not necessary to discuss commanding in detail, but it should be stated that it is an extremely important method of teaching.

Providing rewards, the third general category of teaching techniques, is also employed by the Kwoma. It consists of providing a reward after a pupil has made a right response. A teacher may use this technique after he has motivated and guided the pupil, or he may use it when either the motivation or the guidance or both have been supplied by some other agency. The general category of rewarding may be subdivided into helping, giving, and praising.

Kwoma teachers take advantage of the fact that a pupil can satisfy but few of his drives, either basic or acquired, without the aid of another person or persons.[33] Being helped is thus in many cases the *sine qua non* for achieving a reward. Teachers may, therefore, employ helping as a means of rewarding the right response of a pupil. They use this technique primarily to teach the pupil coöperative habits. In other words, teachers most frequently help a pupil after the pupil has helped them. The technique of helping is thus one of the important methods of transmitting that part of the culture which makes for in-group solidarity and reciprocity.[34]

Giving is closely allied to helping as a technique of reward, being used in the same coöperative context. If a teacher gives a pupil something, it is significant as a reward because the teacher has done the work of producing or otherwise obtaining the gift, and thus relieves the pupil of the necessity of doing the same himself. Gifts in Kwoma are of food, tools, or shell money. Barter and exchange are a form of reciprocal

[33] Malinowski has shown that all cultural habits are an integral part of institutions which imply the cooperative efforts of an organized group of persons for the satisfaction of a need. See B. Malinowski, "The Group and the Individual in Functional Analysis," *The American Journal of Sociology*, XLIV (1939), no. 6, pp. 932–54.

[34] Hull has suggested a psychological basis for this in the principle of reciprocal reinforcement. C. L. Hull, "Outline of a Systematic Theory of Learning," sec. ix, *Educational Psychology Yearbook* (in press).

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

• 12.1
86.1 gift giving in which both parties in the transaction play
43.1 simultaneously the rôles of teacher and pupil.

[47.6] The work bee is a good example of how both helping and
[46.1] giving reinforce coöperative habits. Yat gave a bee to get a log, from which he intended to make a slit gong, dragged from his garden to the house tamberan. He and his wife gathered a surplus of sago, traded some of it for fish, and then announced that they wanted help. Wof, War, Marok, Mar, Gwiyap, Mes, and Mey, as well as several of Yat's affinal relatives, answered the call, and this group spent the morning dragging the log to the house tamberan clearing.
[57.4] When the task was completed, they went to Yat's house and ate the food which his wife had prepared.[37]

If Yat's helpers be thought of as the pupils, he taught them to help him by employing the technique of giving. Their drives were hunger and various appetites aroused by the anticipation of a feast; their response was coöperation in the log pulling; the cue was Yat's announcement; and their reward was the feast given by Yat. Yat thus taught people to help him by giving them a feast.

12.1 If Yat be thought of as a pupil and the others as the
86.1 teachers, helping rather than giving is the technique employed. The drive was the wish to get the log to the house tamberan (based upon the prestige which Yat would gain from having contributed a slit gong to the hamlet); the response was gathering food for a feast, announcing a work bee, and coöperating in the log pulling; the cues were those which indicated that the log was properly seasoned, and that there would be enough men in the hamlet who did not have

[37] It might be objected that this case does not represent socialization since it concerns adults who have presumably already learned coöperative work habits. Such an objection can be answered in the following ways. Although the increments in reinforcement get smaller and smaller with each successive reward, there is always a strengthening of the habit with each reward. Thus a habit theoretically can never be completely learned, and the process of socialization continues throughout the life of any individual. Secondly, if a habit does not lead to reward, it becomes extinguished. Thus reward is necessary to maintain habits as well as to teach them, and the maintenance of habits is as crucial to the process of socialization as is the initial learning of them.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

pressing work of their own to do; the reward was getting the log to the house tamberan plot. Yat's helpers thus taught him to give a feast by helping him.

Not giving and not helping are also techniques which are frequently used to arouse motivation. Kwoma teachers may punish a pupil by refusing to help him or give to him, after he has made a wrong response, or they may threaten him by promising not to help him or not to give to him if he should make a wrong response. The threat of breaking relationship is effective, not only because it implies aggression, but also because it implies withdrawal of support. Thus War's threat that he would break relationship with Gwiyap if he did not stop taking sago from Payap's plot, implied withdrawal of help and was effective in changing Gwiyap's behavior for this reason as well as because it implicitly threatened the kinds of aggression which kinship restrictions inhibit.

Praising is the third technique of rewarding used by Kwoma teachers. It is an acquired reward on the verbal level. As with other rewards, it may be employed either in conjunction with motivation and guidance or alone. A Kwoma teacher most frequently employs this technique when a pupil has performed an unexpectedly "good" response rather than merely a right one. Kwoma pupils are thus reinforced for excelling, for doing better than others, and this may explain in part why Kwoma individuals strive for superiority and prestige.

One of the phrases frequently employed in praising is *handombas*, "good." This word gains its power to reinforce habits by being frequently used in rewarding contexts. A Kwoma will pat his stomach after a good meal and say "*handombas*," or he will say it when he is greeting a friend, or he will use it to refer to someone or something that he likes. He also uses it to describe tasty food, good workmanship, or someone whom he regards highly. As a result, *handombas* comes to have a relaxing or acquired reward value,[10] and thus has the effect of reinforcing preceding habits when-

[10] See N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. iv.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

ever a teacher applies it to a pupil. Since, moreover, a Kwoma teacher seldom punishes, scolds, or threatens a pupil at the same time that he praises him, *handombas* becomes a cue, reducing whatever anxiety may be present, and thus acquires further rewarding value.

A second phrase, *harafa ma malaka*, is applied to men of high prestige who have many privileges that the ordinary person does not enjoy. It comes to mean, therefore, the right to go to the *Nokwi* ceremonies, to have many wives, to have many helpers at work bees, to be deferred to at court meetings, and to be so formidable that no one dare threaten or attack you. When a teacher applies this phrase to a pupil, it symbolizes an advance toward the attainment of these goals and is therefore rewarding. Furthermore, if a pupil is called *harafa ma malaka*, he is never called *karaganda yikafa*, "little child," at the same time, as these are antithetical concepts. Since the latter phrase is used to scold pupils, the former symbolizes non-scolding and thus gains further reward value.

Praising may be exemplified by the following case. Yat speared two pigs in one afternoon, a remarkable feat since a man will often hunt for weeks without success. When he returned to the hamlet, he joined a group of men who were sitting in the house tamberan and told them of his accomplishment. The men praised him for his prowess, referring to his act as *handombas* and to him as a *harafa ma malaka*. Thus Yat was rewarded by these words of praise for whatever hunting technique led to his success.

In conclusion, the following summary of the results of the preceding analyses may be made. The assumption that learning principles apply to the process of culture transmission at Kwoma has led to an organization of the data observed, so that some of the factors which permit, and some of the forces which compel, a Kwoma individual to learn his culture have been isolated and defined. Furthermore, the application of learning theory has brought certain essential details of the process of socialization into sharper relief than might otherwise have been the case. It is evident, also, from the above

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

analysis, that Kwoma teachers have a practical knowledge of the way in which people learn, and use certain teaching techniques which are adapted on the one hand to the principles of learning and on the other to the culture and the necessity of transmitting it. Some of the techniques of teaching which the Kwoma employ stress motivation, others guidance, and still others reward, but all of them are in some way adjusted to the fact that learning only takes place when a person is motivated by a drive to make a response in the presence of cues and gains a reward for so doing. It was further shown that punishing, scolding, threatening, warning, and inciting were used by Kwoma teachers to motivate their pupils; leading, instructing, and demonstrating to guide them; and giving, helping, and praising to reward them.

In accordance with the hypothesis of the basic psychological unity of mankind, learning principles should apply to the process of culture transmission in all societies. Furthermore, since every society is faced with the problem of training the members of the oncoming generation, certain teaching techniques should be present in all cultures, and, certain conditions of social life being present in all societies, some of the techniques observed at Kwoma should be found in other cultures as well. Divergent historical processes and differing environmental conditions, however, may have produced techniques which are unique to a particular culture or to a certain area, may account for the absence of certain techniques in one culture which are found in others, and may have resulted in variations in the use of, and the emphasis placed upon, these techniques from culture to culture. When the data with which to test the above hypotheses have been gathered, it will be possible to construct a general theory of the process of socialization.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

CHAPTER VIII

THE INCULCATION OF SUPERNATURAL BELIEFS

121 869 THE manner in which supernatural beliefs and practices are transmitted to the oncoming generation is one of the most puzzling problems which a student of socialization has to solve. When a teacher wishes to transmit customs which accord with natural and social laws, he has the support of the environment, which supplies both motivation and reward to validate his teaching efforts. When, however, the teacher's task is to transmit habits which do not accord with these laws, his task should be more difficult. It is the purpose of this chapter to describe and analyze the way in which supernatural beliefs are transmitted at Kwoma and to suggest some hypotheses concerning their transmission in other societies.

A number of factors are responsible for the inculcation of supernatural beliefs. Perhaps the most basic of these is the technique of warning described in the previous chapter. Generalization from real dangers, imitation, the operation of chance, and finally social punishments also play an important part in the process. These factors will be discussed and exemplified in the following pages.

An analysis of the cases in which supernatural beliefs and practices are transmitted at Kwoma indicates that teachers rely in large part upon the technique of warning to inculcate this aspect of the culture. This technique was defined, analyzed, and exemplified in the last chapter. It was shown that a warning consists of a specification of the danger and its source, and of instructions for escape from, or avoidance of, the danger. It was shown that Kwoma pupils learn to heed warnings because when they ignore them they experience pain both from the source specified in the warning and from the teacher who punishes them.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

The warnings which Kwoma teachers issue may be divided into two categories: realistic and unrealistic. A realistic warning is one which, if not heeded, will result in pain from the source specified, whereas an unrealistic warning is one which, if not heeded, will not result in pain from the source specified.

Realistic warnings are continually employed by Kwoma teachers concerning all the dangers which appear in the natural and social environments. To list all the warnings a person might receive in the course of his life would be to list much of the culture. It is expedient, however, to mention a few of these warnings in order to indicate how strongly the habit of heeding is built up in the Kwoma pupil. During the weaning period a child is warned not to go too far from home lest he get lost, not to eat certain poisonous foods lest he become sick or die, and not to take or destroy the property of others lest he be punished by the owners. During childhood he is warned not to be impolite to relatives lest they scold him, not to walk about in the houses of other people lest they punish him, not to go alone in the swamp lest he be killed by a wild pig or crocodile, and not to hurt a sibling seriously lest he thereby hurt himself. A boy is warned not to stare at the genitals of females lest they punish him, and not to have an erection in front of his *sister* lest she beat his penis with a stick. Girls are warned not to behave immodestly lest they be criticized. An adolescent boy is warned not to be lazy lest no woman choose him for a husband, not to be caught philandering lest he be attacked by the girl's relatives, not to rape a girl lest he be killed by her relatives, not to hunt pigs lest he be killed or injured, and not to trespass on the property of others lest he be forced to pay damages. An adolescent girl is warned not to be lazy lest no one marry her, and not to be unchaste lest her *brothers* refuse to help and protect her. Adults are also frequently warned by friends and relatives throughout their lives.

Whenever a Kwoma child does not heed one of the above-listed warnings, it is highly probable that he will experience the pain specified in the warning and that he will be scolded

or beaten by his teachers. Thus a strong habit of heeding whatever warning a teacher may issue is built up in every Kwoma individual. As a result, Kwoma teachers may warn their pupils concerning dangers which do not exist and expect that their pupils will heed. This is in fact the case in the inculcation of supernatural beliefs. By means of warnings Kwoma teachers instill in their pupils an unrealistic fear of *marsalai*, ghosts, sorcery, and blood.[1]

Marsalai are supposed to be huge monsters in the form of snakes or crocodiles which cause rain and wind storms, earthquakes, and other cosmic phenomena. They are supposed to be present at the yam-cult ceremonies and to be responsible for a plentiful yield of this crop. A child is first warned about these monsters early in life. When a Kwoma mother weans her child she warns him not to suckle, lest he be injured by the *marsalai* which has now taken possession of her breast. She sometimes emphasizes this story by putting a bloodsucker on her breast. During childhood a person is warned not to go near or touch certain rocks and waterholes, lest the *marsalai* who dwell therein cause a storm or shoot a sago needle into his foot in anger at being disturbed. He is also warned at this period not to go near the house tamberan during a cult ceremony lest the *marsalai* who are present kill him. He is told that the sounds[2] which he hears are the voices of these monsters. When he is initiated at the beginning of adolescence, he is warned not to look up too suddenly at the cult figures which represent the *marsalai* lest the shock kill him.

Ghosts are believed to be the spirits of dead Kwoma who live on the outskirts of the tribal territory. Either as invisible shadows or in the form of a bird or an animal, they sometimes visit the hamlet of the living, particularly at night or when a death has occurred. It is believed that they sometimes attack a person, that they can cause accidents by frightening him, that they are eager to take souls to the land of the dead, and that they cause nightmares and fits of possession. Most warn-

[1] Kwoma have other supernatural beliefs, but these four provide the most important sources of unrealistic fear.

[2] Gongs, flutes, and bull-roarers.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

Kwoma children are warned that if they do not allow someone to bleed them when they have a headache, stomach-ache, or sprain, the pain will become worse and they may even become seriously ill. A boy is also warned that if he does not bleed his penis he will not grow up.[a] When the age-grade initiation approaches, a boy is warned that if he does not attend it and have his blood ceremonially let, he will not grow up. Since this operation is performed in a stream, he is warned that if he eats fish he will become sick, for the fish may have been contaminated by his blood. He is warned that if he eats an animal which he has killed with a spear or arrow he will sicken and perhaps die, since his blood enters the animal through his weapon and contaminates its flesh. This warning is reiterated to adults when they begin pig hunting. An adult who plants yams is warned not to eat them lest he become sick, for the seed and produce have become contaminated with his blood.

One other unrealistic warning should be mentioned here, because a case involving it will be discussed later. Adolescents are warned that if they eat sago flour washed by a woman it will make them sick. The normal procedure in processing sago flour is for the woman, either sister or wife, to crush the pith and for the man to rinse the flour from it.

The following case will serve to illustrate the psychological effect that the above unrealistic warnings usually have upon a Kwoma pupil. Kar, Mar, Gwiyap, and I were walking through the swamp one day, and the path passed by a waterhole. Kar warned the rest of us not to pass too near it for it was the dwelling place of a *marsalai*. Mar and Gwiyap heeded and passed by the waterhole at a distance. I, however, did not heed, approached the hole, and poked my walking stick into it. The three Kwoma shouted at me for doing this, warning me to stop and scolding me for my temerity. The fact that Mar and Gwiyap passed by the waterhole at a distance can be analyzed thus: the drive was fear evoked by Kar's warning due to the pain which both Mar and Gwiyap

[a] This warning is not made directly but by implication, and the practice is performed in secret. See chap. iv, p. 64.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

had previously experienced for not heeding realistic warnings; the response was avoiding the waterhole; the cues were the sight of the waterhole and Kar's instructions; and the reward was the reduction of fear. Since I had not been brought up in Kwoma society, Kar's warning did not evoke fear and I did not make the right response.

Although the technique of warning provides the basis for the inculcation of supernatural fears, several other factors play an important part in this process. One of these factors is the belief that supernatural dangers are similar to real dangers, a fact which strengthens the Kwoma child's fear of them by the principle of secondary generalization.[4]

Since *marsalai* are described as great snakes or crocodiles which live in the swamp, realistic warnings about snakes, crocodiles, and other dangerous animals would tend to generalize to these supernatural monsters. In other words, each time a Kwoma is reinforced for heeding a warning about an animal, particularly a snake or crocodile, he is also somewhat reinforced for heeding warnings about *marsalai*,[5] that is, unrealistic fears. A second source of generalization is that warnings about *marsalai* all concern disturbing their dwelling places. The common word for house is used to describe these supposed dwellings, so that all realistic warnings about trespassing in, and stealing from, the house of human beings also strengthen the warnings about *marsalai*. Finally, *marsalai* are described as being huge. Since large animals and

[4] If two objects are described by the same term, a person tends to respond to them both in a similar manner. Hull has described this as secondary generalization. See C. L. Hull, "The Problem of Stimulus Equivalence in Behavior Theory," *Psychol. Rev.*, XLVI (1939), 9-30. It is also discussed by Miller. See N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941), chap. v. Experimental evidence in support of this principle has recently been adduced by Dr. Jane Birge. See J. S. Birge, "The Rôle of Verbal Responses in Transfer" (Doctoral Dissertation, Yale University, 1941). G. P. Murdock has found empirical support for this principle in a study of the generalization of incest taboos by means of common kinship terms.

[5] Kwoma vivify their warnings about *marsalai* by telling children that the sounds they hear at the time of a ceremony are the voices of these monsters. The sounds are in reality produced by gongs, bull-roarers, and flutes, but this theory offers another avenue of generalization from animals to *marsalai* on the basis of the sounds which they both make.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

big men are likely to be more dangerous than small ones, generalization on the basis of size also tends to support the warnings issued about these supernatural beings.

Ghosts are described not only as having human form but as actually being the spirits of deceased persons. Kwoma seldom speak of ghosts in general terms, but usually specify the ghost of some particular deceased relative. When a Kwoma dreams of someone who has died, he is told that the ghost of this person has actually visited him in the night. Moreover, living persons are sometimes called ghosts. Thus the similarity between men and ghosts is impressed upon a child. Hence, when he is rewarded for heeding warnings about living persons, this should by generalization strengthen the habit of heeding warnings about ghosts. Kwoma children are told that ghosts can assume the form of birds and animals. Whenever a bird or animal is heard or seen at night, it is often suggested that it may be a ghost in disguise. Thus fear of ghosts may generalize from animals as well as from men.

Fear of food "poisoned" by sorcery has, like food contaminated by blood, a realistic source of generalization from food which is actually spoiled. Kwoma employ the same word (*kafwa sek*) to describe putrifying meat or fruit, and to describe food which they believe is "poisoned." Thus if a child becomes ill after not heeding the realistic warning against eating spoiled food, this should tend to strengthen warnings about sorcery. A second source from which the belief in sorcery may receive generalized support is realistic warnings concerning aggression from human beings. Each time a person is scolded, threatened, insulted, or spanked by another person, such an event should strengthen his fear that he can be harmed by sorcery also.

A realistic source from which fears about blood contamination may spring is less evident. The following suggestions may be made. When sickness results from food which is really contaminated, it should strengthen a person's tendency to avoid food which is supposed to be contaminated. Secondly, the Kwoma word for milk is "breast blood." Children are

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

made to abhor milk at the time of weaning, and this abhorrence may generalize through the common term to the drinking of blood or to eating things believed to be contaminated with it.[6]

Imitation, as well as warning and generalization, is of considerable importance in the inculcation of supernatural beliefs. In the previous chapter it was indicated that imitation took its place along with teaching as one of the two most important mechanisms of culture transmission. Although imitation was not analyzed in detail, it was indicated that a Kwoma pupil is very frequently rewarded for behaving like other persons in the society, particularly those who are in the same sex, age, and kinship category as the pupil. Conversely, Kwoma pupils frequently do not gain rewards and do experience pain when they behave differently from these models. This is particularly true when the model gives evidences of being in a dangerous situation.[7] Thus to behave differently from a model comes to evoke anxiety in a Kwoma pupil, whereas to behave like one comes to have an acquired reward value.[8]

The following case will illustrate the way in which supernatural fears are transmitted by means of imitation. I started to whistle one evening while Mar and Mey were visiting me. Mar warned me to stop lest I attract ghosts, but I persisted. Mar then bolted for his house and Mey fol-

[6] Potable liquids such as coconut milk are classed with water, whereas undrinkable liquids such as milk, urine, and breadfruit sap are classed with blood.

[7] The following case will serve as illustration of pain suffered for not imitating. Awa became possessed one night and began to belabor her sister with a stick. Chinuwa caught hold of Awa to prevent her from harming anyone. Several children from the hamlet, hearing the commotion, gathered to see what was happening. Awa struggled against Chinuwa's restraining arms, finally broke free, and began to lay about her with the stick. All the children except Fit ran out of reach. He delayed for a moment and received a blow from Awa on his legs. He then ran away as the rest had done. Fit, by this event, was at first punished for not imitating the other children and then rewarded for imitating them by escaping further blows. Such a situation as this not infrequently presents itself to Kwoma children.

[8] See N. E. Miller and John Dollard, *Social Learning and Imitation* (New Haven, 1941).

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

lowed him. Mey's behavior can be analyzed thus: the drive was fear caused both by my whistling and by the sight of Mar starting to run while he remained; the response was running after Mar; and the reward was the reduction of fear. Had not Mar run away first, Mey might have discovered some other means of reducing his fear, but by imitating Mar he learned to avoid ghosts in the same manner as his older *brother*. Kwoma pupils in a similar manner learn to avoid *marsalai*, to protect themselves from the dangers of sorcery, and to escape the dangers associated with blood. Thus imitation is an important mechanism for the transmission of supernatural beliefs and practices.

Chance as a factor in maintaining supernatural beliefs has long been noted by anthropologists and sociologists.[9] The data from Kwoma tend to support this theory. Storms occur so frequently that it would be extraordinary if one did not occasionally occur after a person has disturbed the dwelling place of a *marsalai*, and this would help to prevent the extinction of the habit of heeding. The following case illustrates this point. Yat had cleared a garden site near a large rock thought to be the dwelling place of a *marsalai*. When the time came to burn the dried brush and branches, a necessary step in the process of gardening, he expressed some anxiety lest this might anger the *marsalai* which lived in the rock, but nevertheless went ahead with his burning. That night there was a bad storm with a high wind, and Yat took this as proof of his belief that he had indeed angered the supernatural being. Wof, Gwiyap, and Mar all explained the storm in the same way. The next time that there was a bad storm, I said to Gwiyap: "Yat didn't disturb a *marsalai* today. How do you account for the storm?" Gwiyap replied: "Maybe Yat didn't, but someone else did. Probably it was one of those stupid people from Wanyi."

Chance also operates to support warnings about ghosts. Marok and Kar stayed visiting in a part of the tribe some distance from their home until after dark, thus not heeding

[9] See W. G. Sumner and A. G. Keller, *The Science of Society* (New Haven, 1928), vol. II, chap. xxi.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

12.1 •
869

the warning about walking abroad during the night. On the way home they heard a strange noise, took it to be a ghost, stopped in their tracks, and yelled for help. War and others, who were gossiping in the house tamberan, heard their cries and shouted back instructions to make a dash for the house tamberan. They did this and thus escaped what they believed was imminent danger. The chance occurrence of a strange noise had operated on this occasion to strengthen the fear of walking abroad at night.

An episode which involved Wof illustrates how chance can strengthen sorcery beliefs. He came home one day to find that someone had tampered with his store of sago flour. Believing that someone had taken flour in order to sorcerize him, he asked his first wife if she knew who could have done it. She replied that she had seen his second wife in that part of the room and that it was undoubtedly she who had stolen the food in order to sorcerize him. When Wof accused the younger woman, she denied it. The next day Wof came to my house and asked me if I had any medicine against sorcery, for he felt sick. He said that his head and stomach ached and he knew that someone was trying to sorcerize him. Whether Wof's illness was an attack of malaria, psychological depression resulting from repressed anger at his wives, or some other psychic or physical disturbance, it strengthened his belief in the efficacy of sorcery. He probably guarded his food stores more carefully thereafter.[10]

Chance can operate to reinforce the habit of heeding a warning about blood. Children who let blood from their penises do grow up; after phlebotomy has been practiced pains eventually disappear; and women who menstruate and men who let blood from themselves remain healthy. The following case also illustrates how chance may operate to support the belief in blood contamination. Toward the end of my stay at Kwoma our regular shoot boy left and we appointed Mes to take his place. Previously he had helped around our house and had eaten whatever pigeon meat was

[262]

[10] It was, indeed, not long after this that he scolded Ham for walking about his porch and accused him of being a thief of sorcery material.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121
869
[262]

left over from our table. When he became shoot boy the question arose as to whether he could still eat this meat since he killed it himself. Gwiyap was of the opinion that since he killed the birds with a gun rather than with a spear or arrow his blood would not be transferred and it would be perfectly safe to eat the meat. Yat, his *paternal uncle*, disagreed with this opinion, and held that it would be dangerous. Gwiyap then argued that the former shoot boy had eaten birds that he had shot without getting sick. Yat countered that, although he did not get sick, he had missed many shots and that this was probably due to his having eaten his own kill. Mes decided to heed his *uncle's* warning and ate no more pigeon meat. It happened that Mes was a very good shot and missed extremely few birds. He explained his accuracy as proof of the wisdom of heeding his *uncle's* warning.

Certain forces operate against heeding unrealistic warnings in Kwoma society. One of the most important of these is the fatigue drive. This drive exerts a constant pressure on the pupil not to run away from ghosts, not to bother to avoid the dwelling place of *marsalai*, to be careless about his food leavings, and not to go to the trouble of gathering nettles to scrape his penis to renew his blood. In other words his fears of the supernatural must be strong enough to overcome his indolence. Furthermore, the avoidance of supernatural dangers is frequently incompatible with the satisfaction of some other drive. When Yat discovered that he had cleared his garden too near a *marsalai's* dwelling place, his fear of disturbing the *marsalai* was opposed by his need to raise vegetables in a convenient place in order to satisfy his hunger. Similarly, when a pupil scrapes his penis or practices phlebotomy to let out bad blood these acts are opposed by the pain which they cause; when he does not eat a pig he has killed or yams he has planted, these renunciations are opposed by his hunger for these foods. Likewise a pupil's avoidance of ghosts and fear of sorcery often force him to give up satisfactions which he might otherwise attain.

In contrast to realistic warnings, when a pupil does not heed an unrealistic warning, the pain, except by chance, does

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

not follow from the source specified. This could be expected to result, through the operation of the principle of extinction,[11] in a weakening of the habit of heeding this particular warning and in a functional discrimination between realistic and unrealistic dangers.[12] The fact that these unrealistic warnings are sanctioned by the community normally prevents such an event from occurring. Pupils are punished for not heeding warnings about *marsalai*, ghosts, sorcery, or blood, as is illustrated by the following case. Kwiya and Fit each bought a harmonica from me and began playing it around their house. Their *mother* warned them that this would bring ghosts. Neither of them heeded this warning, so the *mother* took matters in her own hands. She scolded them both severely and forced them to return their harmonicas to me. An even more striking case, perhaps, occurred when Mundik,[13] a youth who had not yet received his keloids of manhood, attended a funeral ceremony, thus ignoring the warning about the danger from the *marsalai* of the cult to those who are not yet initiated. Mundik was attacked and beaten by the members of the cult, and, after being tied hand and foot, was thrown into a near-by dwelling. Had it not been for our presence he might well have been killed.

Since social sanctions are, in the last analysis, responsible for the maintenance of supernatural beliefs, an inquiry might profitably be made into the problem of why parents take the time and effort to force children to heed warnings. It may indeed be asked why they even issue these unrealistic warnings. A detailed answer to the above questions is beyond the scope of this chapter, but a few suggestions can be made. In the first place, since the teachers have been brought up in Kwoma culture they do not distinguish between realistic and unrealistic dangers as such. Hence they believe that if a

[11] See chap. vii, p. 192, n. 30.

[12] If a response to a generalized cue does not achieve a reward, but the response to the original cue continues to do so, the organism learns to discriminate between the two cues and to react only to the one which leads to reward. See E. R. Hilgard and D. G. Marquis, *Conditioning and Learning* (New York, 1940), chap. viii.

[13] Mundik was a Yelagu who was staying with relatives at Kwoma.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

121 pupil does not heed an unrealistic warning he will be injured
869 just as surely as, and perhaps even more severely than, if he
178 ignored a realistic warning. Why they wish to prevent the child from being injured is a complex problem, involving identification, loss of help and support, and sanctions against negligence. The important question is why, if parents make their children heed unrealistic warnings in order to prevent them from being injured, does this habit not extinguish when they observe a child experience no harmful consequences when he disregards a supernatural danger? The following case of the extinction of a supernatural belief indicates that this is a real as well as a logical possibility.

121 Mar and Gwiyap had both been warned not to eat sago
869 flour washed by a female lest it make them sick. Before they
178 started to work as our houseboys they had heeded this warn-
252 ing and each had worked with one of his *sisters* in the process
262 of extracting sago flour. They had washed the pith while the *sister* crushed it. When they began to work for us, however, we demanded their services in the mornings, when they would otherwise have gone to the swamp to replenish the household flour supply. Awa and Kwiya, the *sisters* who had hitherto worked with them, had no other available *brothers*, and therefore formed a team of their own. They took turns washing and crushing and, of course, produced flour washed by a female. Mar and Gwiyap were somewhat hesitant about trying this flour, but they were faced with the dilemma of either going without flour, which had been a staple in their diet since weaning, or ceasing to work for us, which would have meant losing frequent gifts of trade goods as well as some prestige. They chose to risk disregarding the warnings about the food and hoped that the flour would not be like other bad food they had eaten and which had made them sick. Their parents scolded them for this behavior and warned them again. Since no other painful consequences resulted from their first attempt, they decided to try it again, and, for the remaining six months of our stay, they and the rest of their household ate this supposedly harmful food. After the first few occasions their parents stopped scolding and warning them.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

Thus, not only can the supernatural fears of pupils extinguish, but so also can the fears of the teachers become reduced in the same way, so that they no longer maintain these beliefs by sanctioning them.

The fact that Kwoma children can learn not to heed, and Kwoma parents to stop issuing and sanctioning unrealistic warnings, raises a serious question. Why does this not occur more frequently? Why, in the course of time, have not all these supernatural beliefs disappeared as a result of this process? The answer to this is suggested by one of the basic postulates of the functional theory of anthropology. Parents continue to issue unrealistic warnings and to sanction them because they form an integral part of one or more systems of beliefs, customs, and organized activities which, as a whole, satisfy a social need.[14]

The belief in *marsalai* forms a large part of the charter[15] of the yam cult.[16] *Marsalai* are believed to be present whenever this cult holds a ceremonial meeting and to bless those who participate. In playing the instruments of the cult, the members are producing a representation of the voices of these beings. After a ceremony, no man who has attended may have intercourse with his wife, because the powerful and dangerous influence of the cult *marsalai* still clings to him, and might injure her. Thus, were the belief in these monsters to disappear, the Kwoma would be forced either to provide a new *raison d'être* for their cult ceremonies or to give them up altogether. It is not necessary here to present a detailed account of the functions of the cult, but a few of them may be mentioned to show how important this institution is in Kwoma society. The most direct function of the cult seems

[14] See B. Malinowski, "The Scientific Basis of Applied Anthropology," *Reale Academia D'Italia*, XVIII (1940), 22.

[15] Every institution consists in part of the traditional purposes and reasons for its existence which are believed by the members of the personnel. Malinowski has called this the charter. See B. Malinowski, "The Group and the Individual in Functional Analysis," *American Journal of Sociology*, XLIV (1939), 952-954.

[16] The personnel, norms, and material apparatus of this institution can be gathered from the descriptive chapters. The charter and functions are stressed here because of their importance in this context.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

796 182 • 121 to be that it provides a means of artistic expression. Cult ceremonies furnish the chief opportunity for singing, dancing, rhythmic gong beating, flute playing, and the manufacture of carved figures. Numerous important integrative functions [554] are also fulfilled by the yam cult. It provides one of the bases for the social stratification of men, differentiating four prestige positions: boys who do not belong to the cult, members of the first stage, members of the second stage, and members of the final stage. The yam cult is closely integrated with head-hunting, in that only those who have taken a head can become members of the highest stage. [562] The yam cult excludes women and thus helps to define their status and to maintain the division of labor by sex. Through such exclusion it provides a socially accepted means for men to express their aggressive feelings toward women. [786] It also provides an opportunity for ceremonial license. Finally, the yam cult is associated with agriculture. The cult is thus an important institution, closely integrated into Kwoma culture, and to tamper with its charter by refusing to believe in *marsalai* is something which no pupil or teacher could lightly do.

121 182 796 821 [823] [782] [781] Beliefs in *marsalai*, in addition to forming part of the charter of the yam cult, provide an explanation for cosmic events and a means of controlling them. Bad rain and wind storms, earthquakes, and rainbows[17] are thought to be produced by these monsters. These beliefs permit a Kwoma to perform certain practices which are thought to control them. In the first place he can avoid disturbing them, and in the second place he can utter an aggressive prayer which he believes will stop the storm or earthquake.[18] Thus, both because beliefs in *marsalai* form an integral part of the yam cult and because they perform other functions as well, Kwoma teachers would be very loath to cease believing in them, even if events made them skeptical of their supposed powers.

[132] [17] Wind storms and earthquakes not infrequently destroy Kwoma dwellings and are thus seriously dangerous.

[18] It is assumed here that any activity in the face of danger is normally more reinforcing than passive acceptance, even though this activity is not effective in averting danger.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

Kwoma beliefs about ghosts form part of the charter of the funeral cult. Whenever a person is on the point of death, ghosts are believed to hover around in order to carry the soul to the land of the dead. After death they are believed to guard the body during the months that it is exposed on a platform, until the time when the bones are finally buried under the floor of the dwelling and distributed to the relatives and *friends*. The funeral cult functions directly to provide a means of expressing grief. It is at the first funeral ceremony, which begins when the person dies and ends after the corpse has been deposited on the platform, that the female relatives wail, and that the male relatives talk emotionally of their friendship with the deceased and express their hatred of those responsible for his death.[19] Second, this institution provides an opportunity for mourning. Relatives of the deceased daub themselves with mud and deny themselves some article of diet. Finally, the funeral cult provides for the disposal of the corpse, and thus functions to prevent sickness from contagion. The cult also has integrative functions in that it supports the relationship between relatives and *friends* through the distribution of the bones of the deceased at the time of the second funeral. The second funeral also provides an opportunity for a meeting of the members of the yam cult. Thus, were Kwoma teachers to allow pupils to disbelieve in ghosts, a new rationale would have to be discovered for the funeral cult or its functions would have to be taken over by some other institution.

Besides furnishing a reason for funeral practices, the belief in ghosts provides an explanation for strange noises at night and for dreams, and thus affords a rationale for action. When a Kwoma hears a strange noise at night, he rushes into the nearest house, closes the door, and shouts imprecations and curses at the ghosts, commanding them to return to the land of the dead. He often beats the air with sticks to strengthen his commands. If he has a nightmare he resorts to similar practices; the women may wail and beg the

[19] All deaths are believed to be caused by sorcery.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

775 ghost to leave and not to take the soul of the one who has had
121 the nightmare. The belief in ghosts also offers an explana-
182 tion for irrational acts, e.g., fits of unexpected anger expressed toward members of the in-group. When such occur,
121 the blame can be transferred to a ghost by means of the
182 theory of ghost possession, thus preventing retaliatory meas-
787 ures which would tend to disrupt the group. Ghost possession
775 also provides a means of group catharsis of guilt and of social control. A ghost is believed to possess a person in order to express his anger at a living relative (usually not the possessed person himself) for some sin which he is committing. In order to make the ghost return to the land of the dead, the proper sin must be confessed by an exorcist as spokesman for the group. The exorcist, a relative of the possessed person, lists the sins of the community one by one until the ghost indicates the reason for his anger by means of an affirmation from the possessed person. The sinner then promises to mend his ways, and the ghost returns to the land of the dead. Thus, exorcising the ghost is a group confession of sins and a means of exerting social control. The belief in the existence of ghosts thus fulfills a variety of functions at Kwoma and can therefore be expected to show a strong resistance to extinction.

754 A large part of Kwoma medical practice derives from be-
755 liefs in sorcery. Whenever anyone becomes seriously ill, his
121 relatives announce this event on their house tamberan gongs
182 and command everyone in the tribe to stop sorcery. If the
[202] person continues to be sick, they call a sorcery court, at which accusations are made and denied and evidence is presented. Finally, the relatives of the sick person may visit all those whom they suspect of sorcery and make them drink water as a test. Belief in sorcery thus offers an explanation for sickness which allows for coöperative curing efforts, and is thereby of considerable functional importance to those who have no better theory of disease and no more effective methods of cure. A secondary function of this type of medical practice is that it offers, in the procedures against the supposed sorcerer, a formalized method of expressing aggres-

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

sion[20] which is normally harmless because the sorcerer is seldom if ever discovered.

The belief in sorcery, as well as furnishing an explanation for sickness, functions as a means of social control. It stands, indeed, in lieu of a police force and strong political organization as a preventive of criminal behavior. Theft, rape, murder, and trespass, for example, are inhibited by the fear that these crimes will bring retaliation through sorcery from the person against whom the crime is committed or from his relatives. The fear of sorcery is more potent in preventing crimes than the fear of other forms of retaliation because it is considered as dangerous as realistic modes and more difficult to prevent.

Finally, sorcery provides a means whereby persons can express their aggression against other members of the society without serious consequences. Although the Kwoma probably use this mode of expressing anger only infrequently, the belief in the efficacy of the sorcery mechanism permits one to perform acts which he believes will cause the sickness and death of another person. Thus sorcery beliefs, like those about *marsalai* and ghosts, perform important functions for the members of Kwoma society.

Kwoma informants explain that it is necessary to hold the age-grade ceremony once every five years in order to provide an opportunity for the ceremonial letting of blood that insures health and normal growth to the initiates. The beliefs about blood are thus bound into the system of age-grading, which provides a hierarchy of prestige positions and, like the yam cult, provides opportunities for singing, dancing, flute playing, gong beating, wood carving, and ceremonial license. The taboo against eating pork that one has speared, which is based on the Kwoma theory of blood, prevents private consumption by the hunter and compels him to distribute the meat. This results in quick consumption, an important factor in a damp hot climate where no efficient method for preserving meat is known. The distribution of pork to rela-

[20] The announcement of sickness, the behavior at court, and the testing visits are all aggressive in character.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

The distribution of pork to relatives also serves to cement kinship bonds. The belief that a person should not eat yams which he has planted, because of blood contamination, results in exchange planting and thus strengthens the coöperative bonds between relatives. Finally, the beliefs in blood strengthen the rules of incest and exogamy, since it is thought that children of parents with the same blood are not likely to be strong and healthy.

Kwoma beliefs about *marsalai*, ghosts, sorcery, and blood are thus seen to be not isolated unrealistic fears, but theories which are enmeshed and intertwined with many of the important institutions of the culture.[21] It is consequently understandable that a Kwoma teacher should insist that a pupil learn these beliefs and that he should tend to disregard evidence that they are unrealistic. The pupil, too, experiences many of the advantages which these beliefs entail, a fact which aids the teacher in the task of inculcation.

Although the above analysis gives an answer to the question of why these unrealistic fears do not extinguish, it raises an equally serious one: How can such fears ever extinguish? In other words, if culture is integrated and functional, how can social change ever take place? The case of Gwiyap and Mar suggests one possible answer to this question. The belief that sago washed by women is not good to eat has the function of making Kwoma men do their share of the work of extracting sago flour. In other words, it supports an equitable division of labor in this phase of Kwoma economic life. The presence of the ethnographer, introducing trade goods which were highly prized by Gwiyap and Mar, their *sisters*, and their parents, introduced a disturbing element into this adjustment. Mar and Gwiyap were willing to take the chance of becoming sick, their *sisters* were willing to do more work, and their parents were willing to let the customary division of labor lapse in order to obtain these trade goods. Without intention, or even awareness of the event until after its occurrence, the ethnographer, by introducing a new form of wealth

[21] Supernatural beliefs, on a cultural level, are similar to neurotic symptoms in the individual, in that both are based on unrealistic fear, both result in secondary gains, and both resist extinction.

1: Whiting E-5 (1936-1937) 1941
OJ13 Kwoma OJ13

 121 • 177 178 [123]

and providing a new means of earning it, had set the stage for the extinction of a supernatural belief.

In sum, a number of factors seem to be responsible for the inculcation and maintenance of supernatural beliefs and practices. Kwoma teachers, having repeatedly warned their pupils concerning real dangers, are enabled to use this technique to teach their pupils to avoid dangers which do not exist. To make these unrealistic warnings more forceful, they describe the supernatural dangers as being similar to the real dangers from which their pupils have experienced pain. Imitation also plays as important a rôle as in the transmission of the other aspects of the culture. Despite all these forces which lead a Kwoma pupil to respect supernatural dangers, the effort and deprivation frequently involved in carrying out magico-religious rituals tend to make him omit them. Since such omissions would soon lead to the extinction of these habits, the sanctions of society, as implemented by punishments from his teachers, provide the ultimate force which prevents the pupil from discovering that these dangers do not really exist and do not have to be avoided. Finally, the teachers themselves continue to inculcate these beliefs because they are integral parts of institutions which as a whole are necessary for the satisfaction of the basic and acquired drives of the constituent members of Kwoma society. 121 869

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Preface

128 This manuscript consists of the journal I kept while doing field work
114 on a tribe which eventually came to be known as the Kwoma. It covers the
121 period between September 1936 - May 1937. The late Professor Stephen Reed,
then a fellow graduate student, accompanied me up the Sepik River to Kwoma
territory where we worked together for 4½ months. At this time he left be-
cause his thesis problem required a comparison of the Kwoma with a more
128 acculturated New Guinea peoples, whereas I was interested in an intensive
study of socialization among the Kwoma. Most of the diary is my journal
with only slight editing to clarify shorthand and some of the pidgin English
expressions. Some of these, however, have been left in, and a glossary provided
as a key to understanding them. Some of the native terms are also left in the
text. They are, however, usually defined in context, but if not, they should
appear in the glossary of native terms. (Refer to pages 228-244.)

Although most of the journal is mine, in several instances Mr. Reed, or Tip, as he is referred to in the journal, took a turn. It will be noticed that their understanding of the social culture of the Kwoma is quite confused. At the beginning of the journal, we are at first under the impression that "Waskuk and Bangus" are either moieties of some tribe or neighboring tribes. It eventually dawned on us that they are divisions imposed upon the Kwoma by the British patrol officers. (Where they got the terms I was never able to find out, but they in fact had no reference to any structural reality of the Kwoma culture, except perhaps that Waskuk was translated with Bangus; and Waskuk, by the way, is the name which appears on Australian maps, and is also the name used by Margaret Mead who had previously visited the Kwoma). In addition to the journal, the case histories of two of my close friends and assistants have been appended.